Building your Business Case for Strategic Metadata Management

Justifying a Geographic Information Infrastructure across the Enterprise (and Beyond)

May 2000

Presented by
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Should I Stay for this Presentation?

Or go have coffee. . . .

- What is metadata?
- Who cares? Why?
- What is the value of managing metadata (and what will that cost?
- What new or different actions should I take if I were to take this seriously?
- What tools & resources are available to help?

What is Metadata?

It's not just for GIS Geeks!

It's the information and documentation required . .

"to locate, select, purchase, and access geographic data, determine whether the data in a holding will be of use to them, and use it in the most efficient way."

– International Standards Organization: *2. CD 19115, Geographic information -Metadata* (11/99)

Data sets remain useable, shareable, and understandable as long as the metadata remain accessible. . . .All organizations which produce data have an obligation to produce the metadata necessary to make the data understandable, both for internal and external users of the data. It is not sufficient for these data users to have access to data sets without the information needed to understand or interpret the data.

-- ISO committee draft 15046-15: Geographic information - Part 15: Metadata (Annex C)

What does Metadata Tell Us?

Information about. . . .

- Spatial Accuracy
- Attribute Accuracy & Robustness
- Currency & Completeness
- Context and Lineage
- Access
- Integrity
- *And anything else we need to know in order to maximize the value of our information assets*

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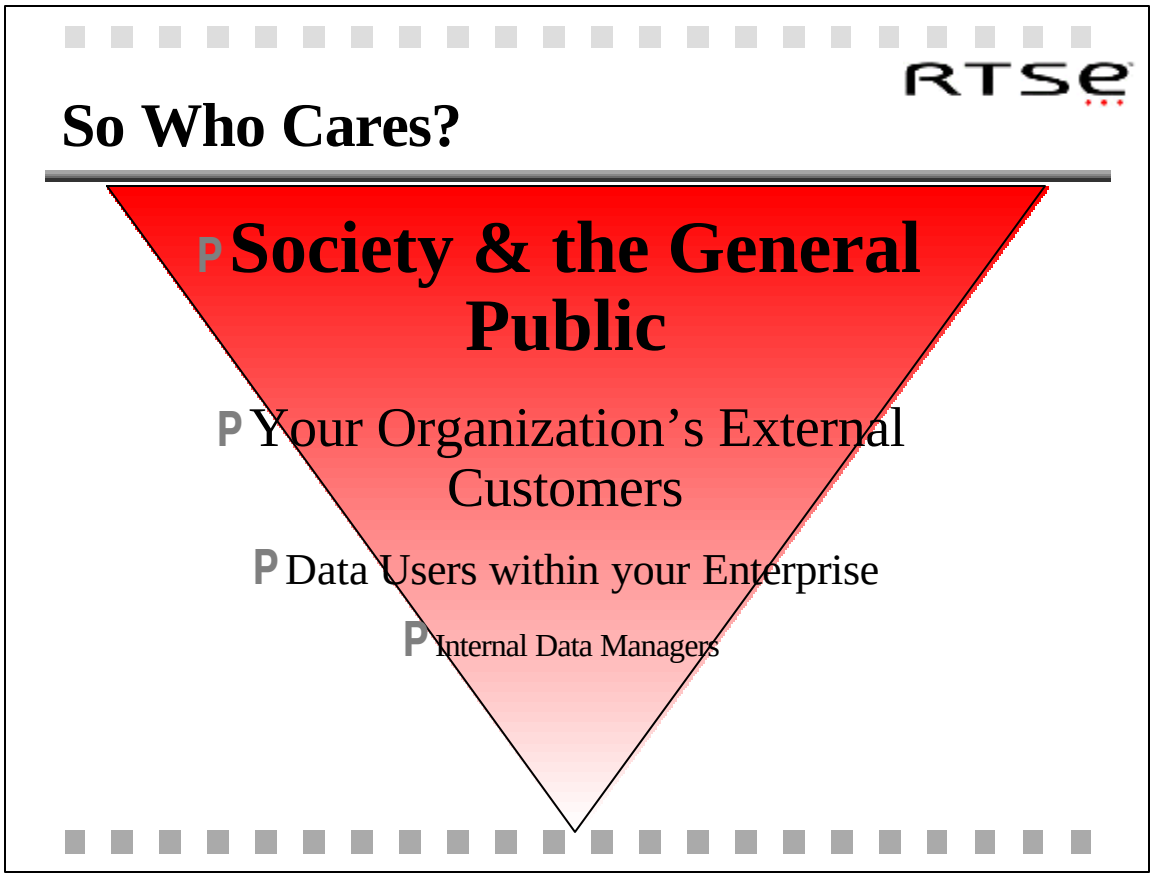


YOU have to define your constituencies, and TARGET your metadata management to maximize your return within each group.

YOU have to know who your "general publics" and "external customers" are, and identify benefits that accrue to them: actual or potential.

Similarly, YOU have to know your enterprise and your management environment, and leverage their needs to your benefit.

The Value of Metadata Management

Immediate and Long Term

- Helps organize an organization's internal investment in spatial data, and maintain value over time,
- Demonstrates broad accessibility and commitment to provide an information service to customers,
- Provides information about an organization's data holdings to data warehouses and clearinghouses.

The Cost of Metadata Management

Short Term & Long Term

- Investment in Hardware, Software & Training
- Commitment to Cross-functional Information Collection & Quality-control
- Work Flow & Process Re-Engineering
- ContinuousImprovement

Costs:
- largely can be anticipated and managed:
- sizeable startup costs are incurred in the short term;
- long-term maintenance costs are small and manageable.

Benefits:
- Short-term benefits may be limited, but can be leveraged.
- Long-term returns grow and grow and grow, based on constituents (users) and management practices.

A Spatial Database Inventory

Implementation Step 1

- Identify all source materials, prioritizing spatial data sets and related files for documentation.

Projection; Datum; Units	Unknown; NAD27; feet
Data Manager	County HWY Department
Software ID & version	AutoCad v.11; Visual FoxPro
Size	4000 kb
Last Modified	19960301
Path / Location	BOZO//D2/covs/rds

FIVE IMPLEMENTATION STEPS

#1 - **Spatial Database Inventory** -- put a boundary around the universe of information -- spatial and non-spatial, digital and non-digital -- that you want to document

An Organizational Inventory

Implementation Step Two

- Each metadata record contains:
  - Some information which relates to the organization which stewards the data,
  - Some information which may pertain to many themes of data within one project or program, and
  - Other (more technical) information pertains only to the database you are documenting.
- Whose good will and cooperation will you have to rely on, in order to gather and verify all the information for your first ten metadata records?

FIVE IMPLEMENTATION STEPS

#2 - **Organizational Inventory** -- Who will you have to rely on to get the job done.

Software Selection

Implementation Step Three

- Standard tools & training are the keys to productivity, consistent and useful output.
- Which software tool(s) are available already?
- What are criteria for selection of new tools?

FIVE IMPLEMENTATION STEPS

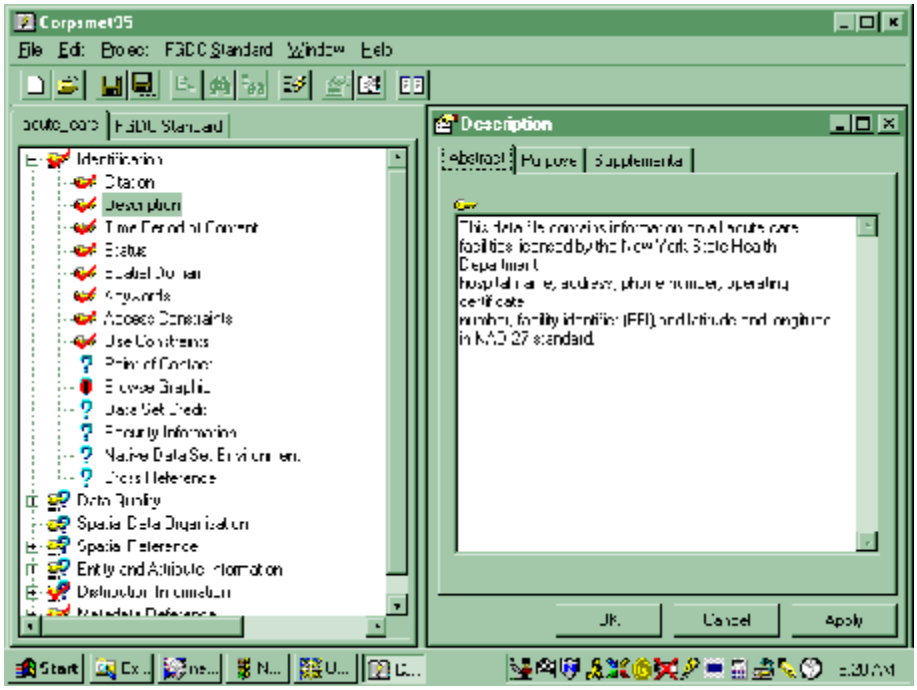
#3 - **SoftwareSelection**

Compliance with FGDC Metadata standard
- Does the vendor say so?
- Will the metadata output parse?

Evaluation of "Metadata Tools"
- Usability
- Administration
- Future FGDC/ISO Updates
- Metadata Exchange
- Tool Reliability

See *http://badger.state.wi.us/agencies/wlib/sco/metatool/mtools.htm*

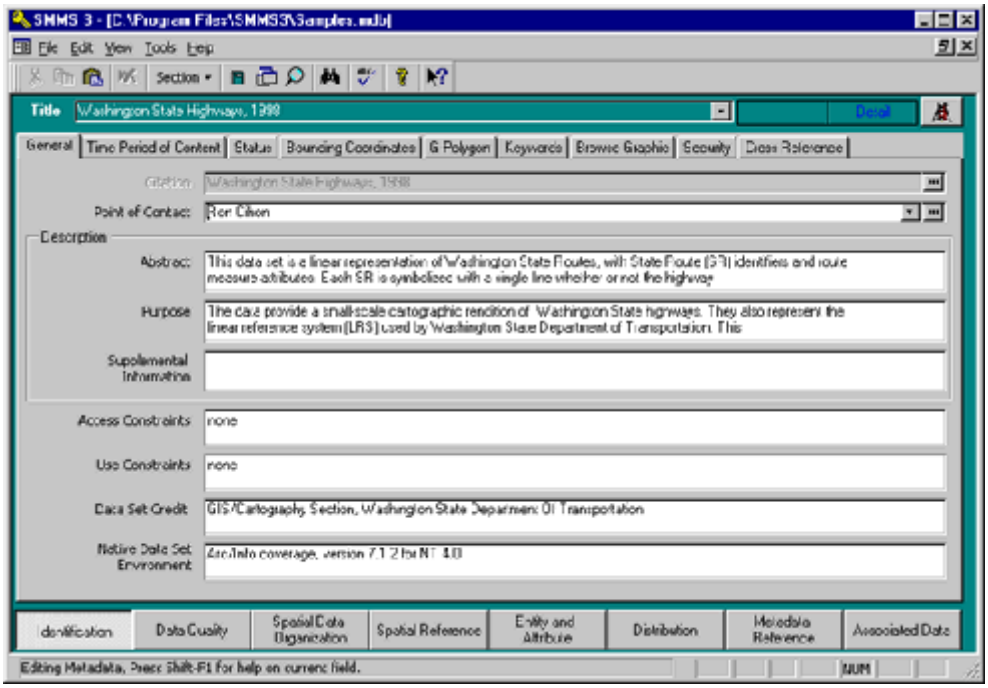
Freeware Solutions, such as:



Freeware Solutions, such as:
"Corpsmet 95" from the Army Corps of Engineers, available at:

ftp://www.usace.army.mil/pub/corpsmet95/corpsmet95_install.exe

Proprietary Solutions, such as:



Proprietary Solutions, such as:

The "Spatial Metadata Management System (SMMS)," available at

www.rtseuse.com

Standardize Business Rules

Implementation Step Four

- Conventions & Procedures for key words, naming conventions, date ranges, etc.
- Candidates for "boilerplate" text (dis-claimers, limitations, access instructions, etc.)
- Re-usable Components: Contact, Distribution and Reference information

FIVE IMPLEMENTATION STEPS

#4 - **Standardize Busienss Rules**

Implement and Evaluate

Implementation Step Five

- Carefully implement & assess a pilot program,
- Set & monitor goals for conversion & production which are realistic,
- Stick to periodic review & update schedules,
- Integrate metadata maintenance with data stewardship.

FIVE IMPLEMENTATION STEPS

#5 - **Implement and Evaluate**

Resources

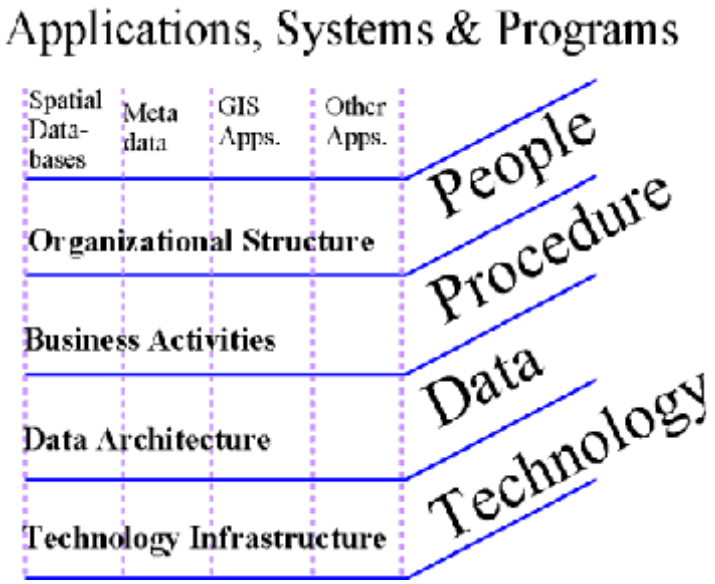
"There is no such thing as a free lunch."

- Internal software tools and skills
- Metadata software & add-ons
  - Share-ware
  - Commercial and proprietary
- Digital and paper resources:
  - Standards
  - Templates
  - Training materials, tutorials and FAQs
- Workshops and peers

Resources:

There are lots of documents, websites, people and events that can provide you with information, education and support.

Your Information Management Strategy



Your **information architecture** includes a matrix of issues. Spatial metadata touches all of them.

YOU have to know how metadata "fits" within all cells of the architecture matrix before your strategy can be complete.

Metadata Management – some Conclusions

- Effective metadata management is integrated with your data maintenance life cycle,
- The costs of *strategicmetadatamanagement* are largely front-loaded and can be controlled,
- Longer-term costs are part of data quality control and continuous improvement programs,
- Benefits accrue immediately; long term benefits may be internal and/or external.

Thanks!

You CAN make a business case to support Strategic Metadata Management!

Bruce Westcott

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You CAN make a business case to support **Strategic Metadata Management**!

for futher information, contact:

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